



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,896	03/23/2001	Valentin Chartier	5974-073	7890

27383 7590 05/31/2005

CLIFFORD CHANCE US LLP  
31 WEST 52ND STREET  
NEW YORK, NY 10019-6131

EXAMINER
----------

AMINI, JAVID A

ART UNIT	PAPER NUMBER
----------	--------------

2672

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/815,896

Applicant(s)

CHARTIER ET AL.

Examiner

Javid A. Amini

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/11/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Arguments***

Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-25 rejected under 35 U.S.C. 102(b) as being anticipated by Qiang JI, Michael M. Marefat (hereinafter refers as “Qiang”).

1. Claims 1,3 5, 7,9, 11, 13, 15, 17-19, 21 and 23.

Qiang on page 265, first col. teaches that occur at different life-cycle stages of a product.

Computer-aided design (CAD), in general, refers to using computers to assist with the various functions in the design process. Engineers consider CAD data to be the data that represent a product or component: in the domain of mechanical components these are often represented as a set of engineering drawings or a solid model of a component, and see fig. 2 on page 268 and figs. 15, 22 that defines the specific geometric feature. Qiang on pages 266-267 teaches Features may also be classified as prismatic or rotational. The attributes associated with features may include dimension, orientation, tolerance, spatial relationship, and topologic components. That is similar to the following claim languages: “A computer system operation method for use with a CAD

Art Unit: 2672

system in modeling objects, said method providing a means for identifying geometric cells of a model, each of said geometric cells comprising data defining a specific geometric feature with which it is associated the method comprising.” Qiang on page 285, first col. teaches the following limitations: “receiving input comprising one or more constraints relating to geometric cell information;” Qiang on page 274, first col. teaches In rule-based methods, rules attempt to specify a set of necessary and sufficient preconditions for the patterns found in a feature.

Recognition is carried out through an inference control mechanism that determines how to apply these rules to the input data. That applies to the following limitations: “ for each constraint and for each of a plurality of geometric cells of a model, processing a declarative syntax specifying at least one of said received input constraints to determine whether the cell meets the requirement of the constraint; and generating a list of geometric cells meeting the requirements of the constraints”. Qiang on page 306, section 6.2 teaches in terms of input information requirements, B-Reps are currently the most popular geometric representation scheme in mechanisms for automatic recognition of features from design models. B-Rep provides a description of an object in terms of its surface and edge entities. These surface and edge entities encourage the use of pattern-matching techniques for feature recognition. However, these entities are also sensitive to feature interactions since interactions can significantly change the observed entities or their properties. The main advantages of this scheme are that it is unambiguous and unique (ignoring changes in tessellation) and that both the volumetric and pattern-matching techniques can easily use it.

Art Unit: 2672

2. Claims 2, 4, 6, 8, 10, 12, 14, 16, 20, 22, 24 and 25.

Qiang on page 286, first col. teaches these functions operate on lists of geometric entities such as faces or edges. A check for subsuming and equal features eliminates redundant features.

Parameter extraction obtains the position, orientation, and dimensions of the features. Adjacent features may be combined to form compound features for a hierarchy of features.

Qiang on page 268, second col. teaches for volumetric feature definitions, a feature interaction corresponds to an intersection of the volumes of two (or more) features. For topology-based feature definitions, an interaction corresponds to modification of the topological elements and the relationships between the elements that define each feature involved in the interaction.

Qiang on pages 267-268 illustrates attention in integrating CAD and CAPP has been the development of an intelligent interpreter of CAD data (geometric models) to obtain features.

Such an interpreter would serve to translate the low-level entities (faces) in the geometric models produced by a CAD system into a set of features suitable for manufacturing by means of an automatic feature recognition process (AFR) that would determine the features from an existing CAD-produced geometric model of a component such as a boundary representation (B-Rep), a constructive solid geometry representation (CSG), engineering drawings, and so on. We discuss geometric models of components in the next section.

Qiang on page 266, second col. teaches Features may also be classified as prismatic or rotational.

The attributes associated with features may include dimension, orientation, tolerance, spatial relationship, and topologic components.

Art Unit: 2672

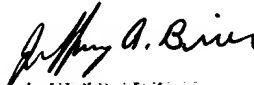
Qiang on page 286 teaches Feature frames consist of slots for width and height of the feature, as well as the geometry and topology that define the feature. The recognition is then performed by exhaustively searching the part frame for matches to all instances of feature frames.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JAVID A. AMINI  
PRIMARY EXAMINER

Javid A Amini  
Examiner  
Art Unit 2672

Javid Amini